

### REMARKS

By this response, Applicants have not amended the claims. As a result, claims 1-20 remain pending in this application. Reconsideration in view of the following remarks is respectfully requested.

In the Office Action, claims 11-15 are allowed. Applicants thank the Examiner for the indication of allowable subject matter.

However, the Office rejects claims 1-10 and 16-20 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,521,109 (Bartic) in view of U.S. Patent Publication No. 2003/0132392 (Kuroda). In order to establish a *prima facie* case of obviousness, the Office must show that (1) every feature is taught or suggested by Bartic and/or Kuroda; (2) Bartic, Kuroda, or generally available knowledge suggests or motivates the modification(s); and (3) one would have a reasonable expectation of success. MPEP 2143. Because the Office fails to establish a *prima facie* case of obviousness, Applicants respectfully request withdrawal of the rejections of claims 1-10 and 16-20 for the following reasons.

With respect to claim 1, the Office notes that Bartic fails to disclose the claimed at least one perforation in at least one of the contact and a second layer disposed between the sensing layer and the contact. However, the Office cites Kuroda as allegedly disclosing this feature. The Office then modifies Bartic based on Kuroda to allegedly arrive at Applicants' claimed invention.

The Office errs in its reasoning in several respects. For example, interpreting Bartic and Kuroda only for the purposes of this response, Applicants note that Bartic provides a device for detecting an analyte based on an influence that an interaction between the analyte and an active layer exerts over the conductivity of a semiconducting layer. (Abstract). In sharp contrast,

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Kuroda provides a sensor device that includes a plurality of openings, each of which includes sensor material positioned on its inner surface. (Paragraphs 29-30). Kuroda's device senses a chemical based on changes in the position and height of the resonance peak of light transmitted through the device. (Paragraphs 33-39). To this extent, Bartic and Kuroda provide detection devices whose operation are substantially different and unrelated (i.e., measuring changes to conductivity in Bartic vs. measuring changes to light in Kuroda). Further, the location of the sensor material in both devices is different (i.e., layer in Bartic vs. inner surface of openings in Kuroda). As a result, Applicants submit that the combination of Bartic and Kuroda is improper.

Further, in support of its modification of Bartic based on Kuroda, the Office states that one would be motivated "in order to have a higher accuracy semiconductor device to be used in sensor applications." (Page 3 of Office Action). However, nothing in Bartic or Kuroda suggests that a higher accuracy in measuring the conductivity of a semiconducting layer in Bartic's device would be achieved by including the openings found in Kuroda. In fact, in view of the unrelated purpose for the openings in Kuroda's device in relation to the operation of the Bartic device, nothing would motivate one to look to Kuroda to improve the accuracy of the Bartic device. As a result, Applicants submit that the motivation cited by the Office is improper since it is not supported by the teachings of either reference.

Still further, the Office's modification to the Bartic device goes against the express teachings of Bartic. In particular, the Office proposes to expose dielectric layer 53 of Bartic's device to the outside using Applicants' claimed at least one perforation in at least one of the contact and a second layer disposed between the sensing layer and the contact. In this manner, Bartic's source/drain contacts 54, 55 and/or semiconducting layer 56 (which covers Bartic's

contacts) would necessarily come in contact with the sample. However, Bartic states that "[t]he direct interaction of the semiconducting layer with the analyte is preferably negligible." (Col. 5, lines 45-46). In fact, Bartic teaches that an encapsulating layer can encapsulate "the semiconducting layer and the electrodes... such that the current pathway between source and drain electrode in the semiconducting layer is protected from air and from the sample." (Col. 7, line 65 through Col. 8, line 2). As a result, Applicants submit that the Office's proposed modification to the Bartic device improperly modifies the device in a manner that is contrary to the express teachings of Bartic.

In light of the above reasons, Applicants respectfully request withdrawal of the rejection of claim 1 and claims 2-10, which depend therefrom, as allegedly being unpatentable over Bartic in view of Kuroda.

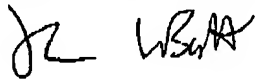
With respect to claim 16, Applicants note that the Office similarly uses Bartic as modified by Kuroda to allege that Applicants claimed contact that includes at least one perforation to expose a sensing layer to the medium would have been obvious. To this extent, Applicants herein incorporate the arguments presented above with respect to the Office's modification of Bartic using Kuroda. As a result, Applicants respectfully request withdrawal of the rejection of claim 16 and claims 17-20, which depend therefrom, as allegedly being unpatentable over Bartic in view of Kuroda.

Applicants submit that each of the pending claims is patentable for one or more additional unique features. To this extent, Applicants do not acquiesce to the Office's interpretation of the claimed subject matter or the references used in rejecting the claimed subject matter. These

features have not been separately addressed herein for brevity. However, Applicants reserve the right to present such arguments in a later response should one be necessary.

In light of the above, Applicants respectfully submit that all claims are in condition for allowance. Should the Examiner require anything further to place the application in better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the number listed below.

Respectfully submitted,



John W. LaBatt, Reg. No. 48,301  
Hoffman, Warnick & D'Alessandro LLC  
Three E-Comm Square  
Albany, NY 12207  
(518) 449-0044 - Telephone  
(518) 449-0047 - Facsimile

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